UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,697	03/15/2007	Lei Yang	57640/D587	3714

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/577,697	YANG, LEI
	Examiner	Art Unit	
	MEWALE AMBAYE	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 April 2009*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 April 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>06/13/07 & 04/28/06</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

1.   The office action is in replay to an amendment filed on April 13, 2009. Claims 1-

11 are pending.

Response to Amendment

2.   The office action is in replay to an amendment filed on April 13, 2009. Claims **1-**

4 have been amended. Claims **10 & 11** have been newly added. Claims **1-11** are pending.

Response to Arguments

3.   Applicant's arguments with respect to claims 1-11 have been considered but are

moot in view of the new ground(s) of rejection.

        Applicant's arguments, filed on 04/13/2009 with respect to the drawings have

been fully considered and are persuasive. The objection of the drawing has been

withdrawn.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

        Claims **1-3 & 5-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Kim US Patent No 7386876 B2, in view of Whelan et al (hereinafter referred as Whelan)

US Publication No. 2004/0003285 A1, in further view of Sherer et al (hereinafter referred

as Sherer) US Patent No. 6,115,376 B2.

5.   **As per claim 1 & 10:** Kim discloses a method/device for preventing Ethernet

from being attacked, comprising: establishing and storing a fixed map *(address table)*

between a port and a hardware address of a terminal device *(See Col 3 line 48 through*

Col 4 line 10, the address table 152 establish and store information's related to the Mac

address and the port table), then forwarding a data packet according to the fixed map

after an Ethernet communication device detects a new connection between the port and

the terminal device and receives a data packet from the terminal device *(See Col 2 lines*

64 through Col 3 line 5, once the data is received up on request of communication

through an Ethernet switch, the data is read and determined whether access vector of the

address are match with an address entry table before forwarding the packets).

Kim does not explicitly teach prohibiting the fixed map between the port and the

hardware address from being modified as long as the connection between the port and the

terminal device is not cut off;

However, Whelan discloses prohibiting the fixed map between the port and the

hardware address from being modified as long as the connection between the port and the

terminal device is not cut off *(See Page 2; Para. 0017; lines 12-17, the network monitor*

is configured to configure the switch not to able to transfer information between two

network segments which means the fixed map can not be modified because no one has

access to it).

Therefore, it would have been obvious to one ordinary skill in the art at the time

the invention was made to employ the teaching method of Whelan within Kim method in

order to prevent transfer of information through the switch originating from or addressed

to the unauthorized access point *(See Page 2; Para. 0017)*.

The combination of Kim and Whelan discloses all the limitations of independent

claim 1 except deleting the fixed map after the Ethernet connection device detects a

disconnection between the port and the terminal device.

However, Sherer discloses deleting the fixed map after the Ethernet connection

device detects a disconnection between the port and the terminal device *(See Col 6 lines*

59-63, if it's detected that the end station is turned off (disconnected), the Mac address

can be deleted from the table).

Therefore, it would have been obvious to one ordinary skill in the art at the time

the invention was made to employ the teaching method of Sherer within Kim and Whelan

method in order to improve network security in a network that includes a star configured

interconnection device such as repeaters, bridges, switch or router, that has a plurality of

ports adapted for connection to respective MAC layer devices *(See Sherer Col 2 Lines*

54-58).

6.   **As per claim 2:** the combination of Kim, Whelan and Sherer discloses a method

further comprising: after receiving the data packet from the terminal device, judging

whether the fixed map has been established *(See Kim claim 2 & Col 4 lines 13-25, a*

search memory 140, checks whether a destination address in the header of a received

packet has been registered); if so, forwarding the data packet; otherwise, establishing and

storing the fixed map between the port and the hardware address of the terminal device

(See Kim claim 2, when determined that the Mac source address is stored in a table,

transmit the packets. If not, access is denied).

7.   **As per claim 3:** the combination of Kim, Whelan and Sherer discloses a method

wherein the forwarding of the data packet comprises whether a hardware address carried

in the data packet is consistent with the hardware address corresponding to the port in

said fixed map; if so, forwarding the data packet according to a conventional forwarding

processing; otherwise, discarding the data packet *(See Kim Col 2 line 64 through Col 3*

line 5, if the access vector of the address are present in the an address entry table,

forward the packets. If not access is denied).

8.   **As per claim 5:** the combination of Kim, Whelan and Sherer discloses a method

wherein said hardware address is a Media Access Control (MAC) address (See Kim Col

2 lines 63-68, Mac address is the hardware address).

9.   **As per claim 6:** the combination of Kim, Whelan and Sherer discloses a method

wherein detecting the new connection or the disconnection between the terminal device

and the port is implemented by detecting physical signals in the port *(See Sherer Col 6*

lines 57-63, the network device monitor the link beat signals generated by end station on

the port).

10.   **As per claim 7:** the combination of Kim, Whelan and Sherer discloses a method

wherein said Ethernet communication device is a two-layer switch, a three-layer switch, a

firewall device or an Ethernet bridge *(See Kim Col 1 lines 57-64, the communication*

device is an Ethernet switch).

11.   **As per claim 8:** the combination of Kim, Whelan and Sherer discloses a method

wherein said terminal device is a personal computer, a server or an IP telephone set *(See*

Kim Col 3 lines 36-42, the terminal devices cab be a personal compute, a switch or a router).

12.   **As per claim 9:** the combination of Kim, Whelan and Sherer discloses a method wherein said fixed map is stored in a hardware address table of the Ethernet communication device (See Sherer FIG. 2 & Col 5 lines 4-10, the device includes memory).

13.   **As per claim 11:** the combination of Kim, Whelan and Sherer discloses a method comprising: means for judging whether a hardware address carried in the data packet is consistent with the hardware address corresponding to the port in said fixed map; if so, forwarding the data packet according to a conventional forwarding processing; otherwise, discarding the data packet *(See Col 2 lines 64 through Col 3 line 5, once the data is received up on request of communication through an Ethernet switch, the data is read and determined whether access vector of the address are match with an address entry table before forwarding the packets. If the address matches the packets gets forwarded, if not access id denied).*

14.   Claim **4** is rejected under U.S.C. 103(a) as being unpatentable over the combination of Kim, Sherer and Whelan, in view of Yao et al (hereinafter referred as Yao) US Patent No. 7,263,559.

15.   **As per claim 4:** the combination of Kim, Sherer and Whelan disclose all the limitation of claim 3 except further comprising: after discarding the data packet, recording result of the judging of whether the address carried in the data packet is

consistent with the hardware address corresponding to the port in said fixed map, in a log

and informing a network administrator.

However, Yao discloses a method further comprising after discarding the data

packet, recording result of the judging of whether the address carried in the data packet is

consistent with the hardware address corresponding to the port in said fixed map, in a log

and informing a network administrator *(See Col 2; lines 43-57, once the packet is*

discarded, the DHCP sends the server to delete the allocated address).

Therefore, it would have been obvious to one ordinary skill in the art at

the time the invention was made to employ the teaching method of Yao within the

combination of Kim, Whelan and Sherer method in order to provide a method for

preventing IP address cheating in dynamic address allocation *(See Col 2 lines 1-3)*.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

advisory action. In no event, however, will the statutory period for reply expire later than

SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Mewale Ambaye whose telephone number is (571) 270-

7634. The examiner can normally be reached on M - F, 8:00 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, William Trost can be reach on (571) 272-7872. The fax number for the

organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the

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If you would like assistance from a USPTO Customer Service Representative or access to

the automated information system, call 800-786-9199 (In USA or Canada) or 571-272-

1000.

/M. A. /

Examiner, Art Unit 2416

/William Trost/

Supervisory Patent Examiner, Art Unit 2416